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NJ 07030 (US). **MARTINI, Rainer** [US/US]; 613 Hudson Street, Apt.2F, Hoboken, NJ 07030 (US).

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(74) **Agent:** **SELITTO, Ralph, W.**; McCarter & English, LLP, Four Gateway Center, 100 Mulberry Street, Newark, NJ 07102 (US).

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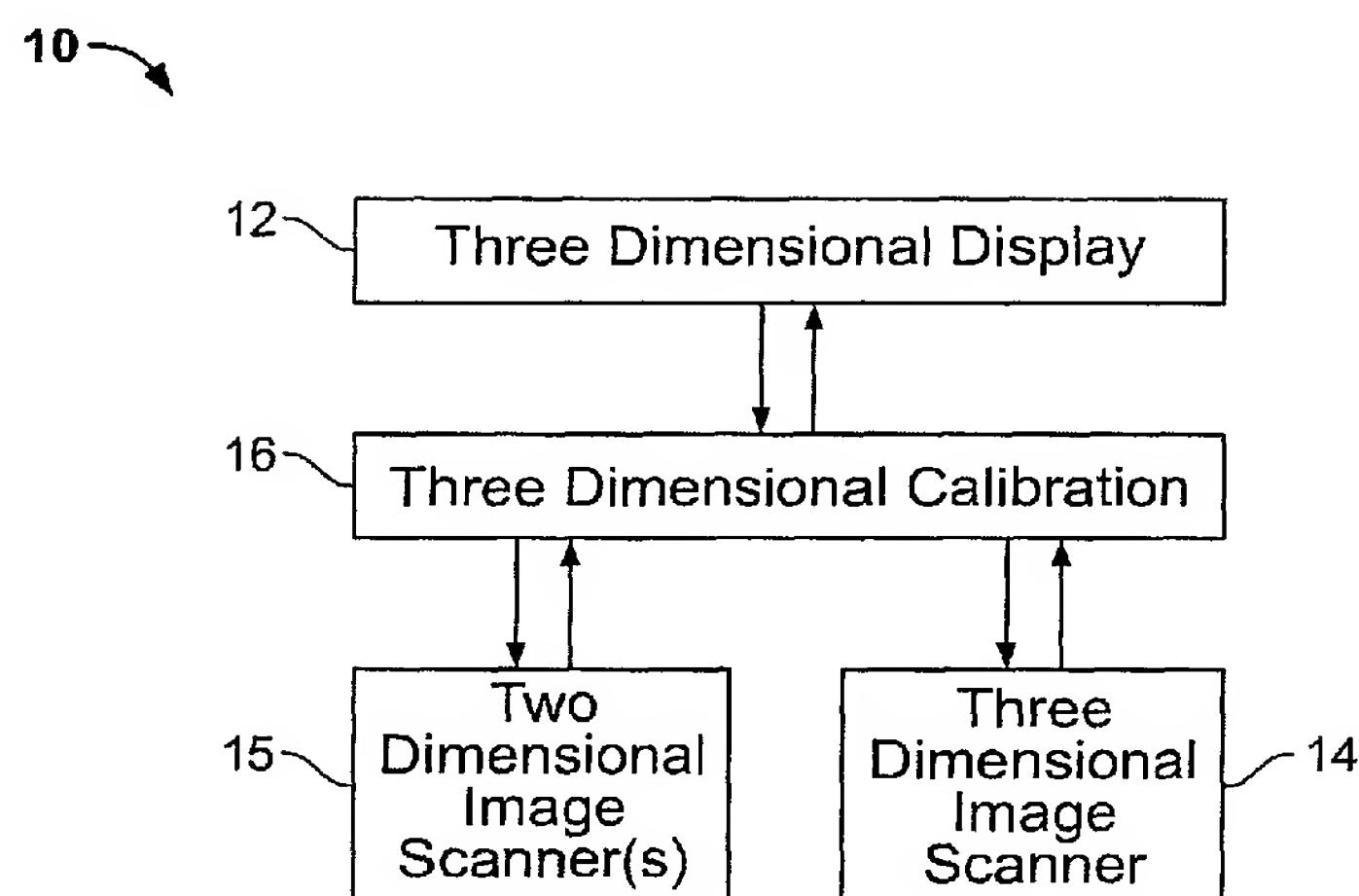
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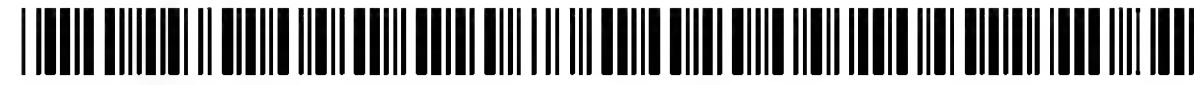
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(54) Title: THREE-DIMENSIONAL IMAGING SYSTEM USING OPTICAL PULSES, NON-LINEAR OPTICAL MIXERS AND HOLOGRAPHIC CALIBRATION



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(57) **Abstract:** A three dimensional imaging system is disclosed which includes a three dimensional display (12), three-dimensional calibration equipment (16), and one or more two-dimensional (15) or three dimensional (14) image scanners. The three-dimensional display (12) uses optical pulses (32a-32k) and a non linear optical mixer (18) to display a three-dimensional image (17). The three-dimensional image (17) is generated in voxels of the display volume (28) as the optical mixer (18) sweeps the display volume (28). The three-dimensional calibration equipment (16) uses a hologram projected proximal to a desired object (164) to calibrate optical imaging devices (162a-162c) and to simplify the combination of the images from one or more optical imaging devices (162a-162c) into three-dimensional information. The three-dimensional image scanner (14) employs optical pulses (136, 138) and a non-linear optical mixer (128) to acquire three-dimensional images of a desired object (134). The three-dimensional image scanner (14) captures both the shape and color of a desired object (134).



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